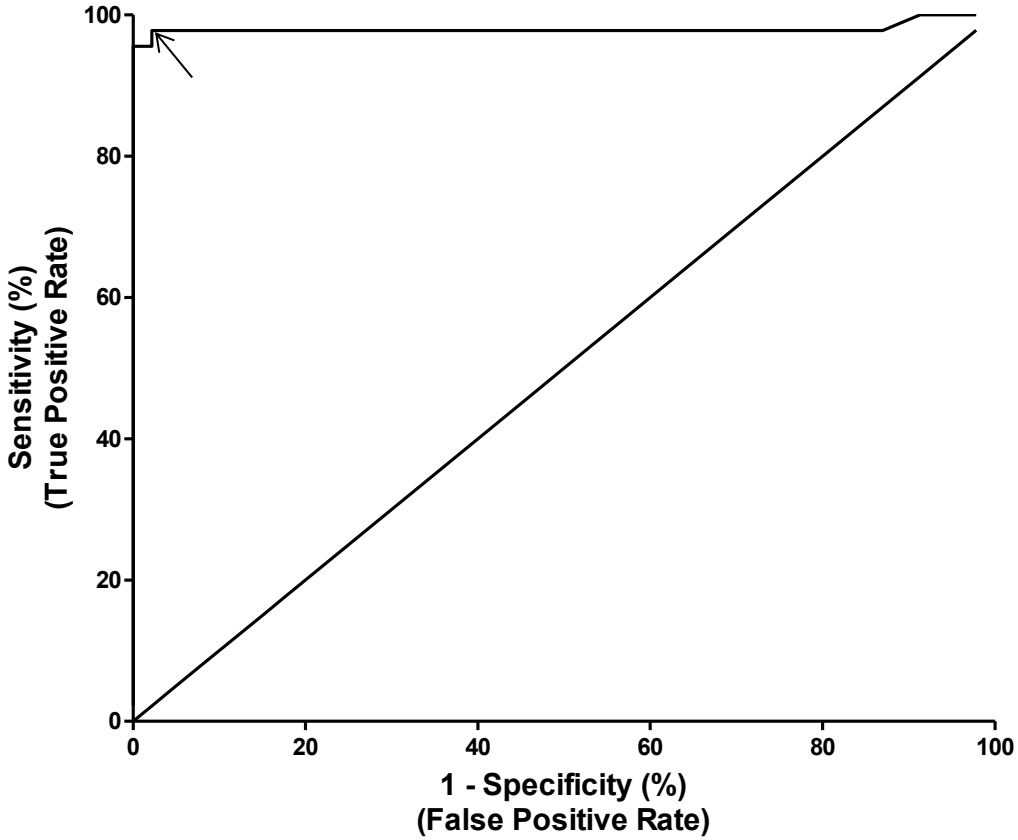
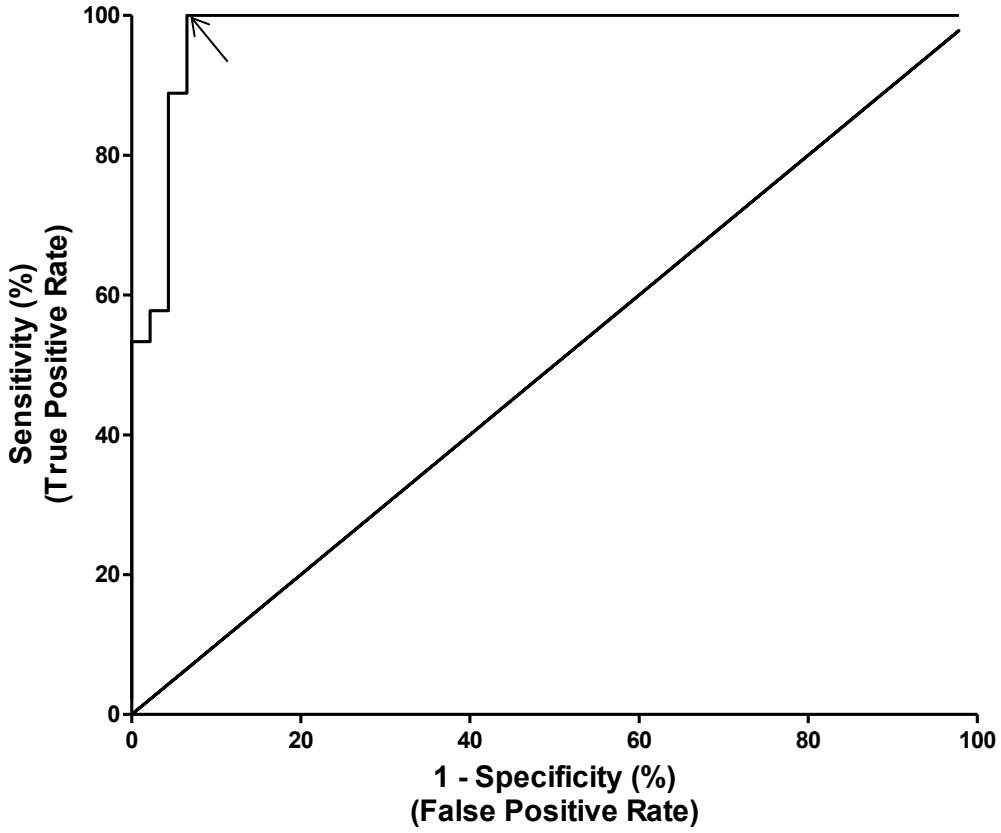
Supplementary Figure 1. ROC curve analysis for RT-QuIC results



Arrow indicates a cutoff of 2.0

- AUC = 0.98 (0.94 – 1.02)
- P value <0.0001

Supplementary Figure 2. ROC curve analysis for EP-QuIC



Arrow indicates a cutoff of 4.0

- AUC = 0.98 (0.95 – 1.01)
- P value <0.0001

Supplemental Table 1 Clinical Classification of Samples.

		Diagnosis	Number of cases
Breakdown of diagnoses:	CJD+	+ CJD	39
		+ CJD w/Alzheimers	4
		+ fCJD	2
	CJD-	Alzheimer's Disease	3
		Hydrocephalus	2
		Delirium	2
		Alzheimer's Disease / Dementia	1
		Probable Alzheimer's Disease	1
		Not CJD	1
		Dementia NOS	1
		Encephalitis	1
		Sub clinical Epilepsy	1
		Vascular Dementia	1
		Whipples Disease	1
		Transverse myelitis	1
		Status epilepticus with Hypothyroidism	1
		Lymphoma	1
		Probable Mitocondrial Disease	1
		MS	1
		Fronto-temporal dementia	1
		Myoclonus NYD	1
		Bipolar Disorder	1
		Septicemia	1
		Atypical brain stem stroke	1
		Psychosis	1
		aspiration pneumonia	1
		Hypoxic encephalopathy	1
		NYD	1
		Non Specific Dementia	1
		Chronic Hypoxia	1
		Coma rigidity, NYD	1
		Delusional-Psychiatric Disease NYD	1
		CVA	1
		HIV	1
		Parkinsons. Plus Syndrome	1
		Grade III Astrocytoma	1
		Not available	1
		Motor Neuro Disease	1
		Progressive cognitive decline	1
		Acute Glysomatosis	1
		Degenerative Brain Disorder, Unknown eitology	1
		Motorneuropathy	1
		Alcoholism	1
		Thiamine deficiency	1
		Paraneoplastic Syndrome	1

Supplementary Table 2. Clinical Diangoses of False positive, False negative and Indeterminate samples

	Diagnosis	# False Results		# Indeterminate	
		EP-QuIC	RT-QuIC	EP-QuIC	RT-QuIC
CJD+	(A) + CJD		1	1[a]	1[a]
CJD-	Alzheimer's Disease / Dementia			1	
	Probable Alzheimer's Disease			1	
	Status epilepticus with Hypothyroidism	1[b]			1[b]
	Acute Glysomatosis	1			

[a] same CSF sample

[b] same CSF sample

Supplementary Table 3. Inter-observer agreement analysis (Kappa test)*

A

		Test #1 Result: Positive	Test #1 Result: Negative	
Test #2 Result	Positive	**a**	b	m_1
	Negative	c	**d**	m_0
		n_1	n_0	n

(a) and (d) are the number of times that the two tests gave the same result. (b) and (c) are the number of times that the two tests did not agree.

Kappa = $\frac{(p_o - p_e)}{(1 - p_e)}$

Where the observed agreement $p_o = (a+d)/n$

and the expected agreement $p_e = [(n_1/n)*(m_1/n)] + [(n_0/n)*(m_0/n)]$

B

		RT-QuIC: Positive	RT-QuIC: Negative	
EP-QuIC	Positive	**43**	2	45
	Negative	0	**42**	42
		43	44	87

K = (0.98 – 0.50) / (1 – 0.50) = 0.95

* Indeterminate samples (two in RT-QuIC and three in EP-QuIC) were excluded from the analysis. A, Kappa calculation data layout; B, Kappa test for RT-QuIC and EP-QuIC reactions on 87 samples.